



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,599	04/16/2004	Matthew Englehart	MWS-081	1199

74321 7590 04/17/2008
LAHIVE & COCKFIELD, LLP/THE MATHWORKS
One Post Office Square
Boston, MA 02109-2127

EXAMINER

FRANCIS, MARK P

ART UNIT	PAPER NUMBER
----------	--------------

2193

MAIL DATE	DELIVERY MODE
-----------	---------------

04/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/826,599	Applicant(s) ENGLEHART, MATTHEW	
	Examiner MARK P. FRANCIS	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the amendment filed January 07, 2008.
2. Per applicants' request, claims 1-14, 16, 18-25, and 28 have been amended.

Response to Amendments

3. The rejection of claims 23-24 under 35 U.S.C. 101 as being directed to non-statutory subject matter is withdrawn in view of applicant's amendment.

The nonstatutory double patenting of claims 1-30 is withdrawn in view of Applicant's response.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-1-5, 7-8,10-14, and 16-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Ortal. (U.S. PGPUB 2004/0034846)

Independent claims

With respect to claims 1 and 23, Ortal discloses a computer-readable storage medium for use with an electronic device having a processor,(Col 8:0129, "...computer 700 used

Art Unit: 2193

for implementing the computer processing...”) the medium storing instructions executable by the processor of the electronic device,(Col 9:0133, “...performing calculations and logic operations required to execute a program...”) the medium storing:

One or more instructions for receiving a user request to define a property for a component of a simulatable block diagram model; (Col 8:0124-0125, "...a user desires to add an attribute to a class...")

One or more instructions for generating a preview of code representative of the component of the block diagram model prior to generation of code for the block diagram model;(Col 5:0080, “...displaying at least a portion of the source code that has been modified...”) and

One or more instructions for displaying the preview of the code on a graphical user instance. (Col 5:0087, “...determine that at least a portion of the software source code has been modified...”)

With respect to claim 19 and 24, Ortal discloses a computer-readable storage medium for use with an electronic device holding instructions executable by the electronic device for performing a method, (Col 8:0129, “...computer 700 used for implementing the computer processing...”)comprising the steps of: automatically updating a preview of code representative of a setting of a component of a graphical model in response to the user altering the setting; (Col 5:0080, “...displaying at least a portion of the source code that has been modified...”)

and displaying the updated code on a graphical user interface. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 25, Ortal discloses a system for generating and displaying a graphical programming application, (Col 8:0129, "...computer 700 used for implementing the computer processing...") comprising: user-operable input means for inputting data to the graphical programming application; (Col 8:0124-0125, "...a user desires to add an attribute to a class...") a display device for displaying a simulatable block diagram model; (Col 6:0108, "...can display a Unified Modeling Language...") and an electronic device including memory for storing computer program instructions and data, (Col 8:0129, "...computer 700 used for implementing the computer processing...") and a processor for executing the stored computer program instructions, (Col 8:0129, "...computer 700 used for implementing the computer processing...")the computer program instructions including instructions for providing a code preview to a user on the display device, (Col 7:0114, "...if a user selects an element...its implementation can be displayed in an active code view window...") wherein the code preview(Col 1:0012, "...display code that corresponds to a selected model...") displays code representative of a component of the block diagram model after the user defines a property of the component using the user-operable input means.

(Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 28, Ortal discloses a system for generating and displaying a graphical programming application, (Col 8:0129, "...computer 700 used for implementing the computer processing...")comprising: user-operable input means for inputting data to the graphical programming application; (Col 8:0124-0125, "...a user desires to add an attribute to a class...") a display device for displaying a simulatable block diagram model; (Col 6:0108, "...can display a Unified Modeling Language...", e.g. See Fig. 3 and related text) and an electronic device including memory for storing computer program instructions and data, and a processor for executing the stored computer program instructions, (Col 8:0129, "...computer 700 used for implementing the computer processing...") the computer program instructions including instructions for automatically updating code representative of a setting for a component in the block diagram model in response to the user altering the setting and displaying the updated code. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

Dependent claims

With respect to claim 2, the rejection of claim 1 is incorporated respectively and further, Ortal discloses that the receiving the user request to define the property for the

Art Unit: 2193

component comprises receiving a parameter via the graphical user interface. (Col 8:0128, "...a user can change the name of a class...")

With respect to claim 3, the rejection of claim 2 is incorporated respectively and further, Ortal discloses that the generated code is displayed on the same graphical user interface used to enter the parameter. (Col 5:0087, "...modify the at least one of the plurality of model elements...", e.g. See Fig. 3 and related text)

With respect to claim 4, the rejection of claim 1 is incorporated respectively and further, Ortal discloses that generated code comprises a subset of code for the component. (Col 7:0115, "...and their corresponding implementation file...")

With respect to claim 5, the rejection of claim 4 is incorporated and further, Ortal discloses that the subset of code corresponds to the setting defined by the user. (Col 8:0128, "...a user can change the name of a class...")

With respect to claim 7, the rejection of claim 1 is incorporated and further, Ortal discloses that the step of generating code comprises an execution engine generating code corresponding to the component. (Col 7:0110, "...Model-code manager locates or determines relevant changes...")

With respect to claim 8, the rejection of claim 1 is incorporated and further, Ortal discloses that the generated code comprises a symbolic, non-literal representation of code corresponding to the component. (Col 5:0085, "...an activity diagram...")

With respect to claim 10, the rejection of claim 1 is incorporated and further, Ortal discloses that the steps of generating and displaying a preview of code execute in real-time after receiving the user request. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 11, the rejection of claim 1 is incorporated and further, Ortal discloses the step of altering the property for the component after the step of displaying the generated code. (Col 8:0128, "...a user can change the name of a class in the code exit codeview...")

With respect to claim 12, the rejection of claim 11 is incorporated and further, Ortal discloses the steps of generating code representative of the altered property(Col 8:0128, "...a user can change the name of a class in the code exit codeview...") and displaying the code representative of the altered property on the graphical user interface. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 13, the rejection of claim 1 is incorporated and further, Ortal discloses the step of altering a second property in the graphical model after the step of displaying the generated code. (Col 8:0124, "...a user desires to add an attribute to a class...")

With respect to claim 14, the rejection of claim 11 is incorporated and further, Ortal discloses the steps of generating code representative of the altered second property (Col 8:0124, "...a user desires to add an attribute to a class...") and displaying the code representative of the altered property on the graphical user interface. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 16, the rejection of claim 1 is incorporated and further, Ortal discloses that the user defines the property by entering a parameter for the component in a dialog box associated with the component. (Col 8:0124, "...a user desires to add an attribute to a class...")

With respect to claim 17, the rejection of claim 16 is incorporated and further, Ortal discloses that the dialog box includes a code preview field for displaying the code. (Col 8:0124, "...a user desires to add an attribute to a class...")

With respect to claim 18, the rejection of claim 1 is incorporated and further, Ortal discloses that the steps of generating code representative of the component of the block diagram. (Col 8:0128, "...a user can change the name of a class in the code edit codeview...")

and displaying the generated code on a graphical user interface are executed automatically in response to the user defining the property. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

With respect to claim 20, the rejection of claim 19 is incorporated and further, Ortal discloses that the user alters the setting using the graphical user interface. (Col 8:0128, "...a user can change the name of a class...")

With respect to claim 21, the rejection of claim 19 is incorporated and further, Ortal discloses that the graphical user interface displays the updated code in real time after the step of the user altering the setting. (Col 4:0076, "...detect changes ...automatically update the model...", Col 5:0087, "...determine that at least a portion of the software source code has been modified...")

Art Unit: 2193

With respect to claim 22, the rejection of claim 19 is incorporated and further, Ortal discloses the step of the user canceling the alteration of the setting after viewing the code. (Col 8:0125, ‘...a user can rename a class and set the file...’)

With respect to claim 26, the rejection of claim 25 is incorporated and further, Ortal discloses that the input means comprises a graphical user interface displayed on the display device. (Col 6:0108, “...The user interface that can be used in connection...”)

With respect to claim 27, the rejection of claim 26 is incorporated and further, Ortal discloses that the graphical user interface includes a field for displaying the code preview. (Col 6:0108, “...an active code view is shown...to display code that can be used to display code ...”)

With respect to claim 29, the rejection of claim 28 is incorporated and further, Ortal discloses that the input means comprises a graphical user interface displayed on the display device. (Col 6:0108, “...The user interface that can be used in connection...”)

With respect to claim 30, the rejection of claim 29 is incorporated and further, Ortal discloses that the graphical user interface includes a field for displaying the updated code. (Col 6:0108, “...an active code view is shown...to display code that can be used to display code ...”)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortal in view of Miller. (U.S. Pat 6,175,948)

With respect to claim 6, the rejection of claim 1 is incorporated and further,

Ortal does not disclose that the step of generating code comprises a predictor mechanism generating an estimation of the code.

Miller discloses that the step of generating code comprises a predictor mechanism generating an estimation of the code(Col 7:10-25, "...User component selection...performance estimates as specified...")in an analogous system for the purpose of providing a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way of generating and optimizing code and ancillary target software for use in communication systems.(Miller:Col 2:10-16)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include a predictor module that generates software code estimates.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way of generating and optimizing code and ancillary target software for use in communication systems.(Miller:Col 2:10-16)

With respect to claim 15, the rejection of claim 1 is incorporated and further, Ortal does not disclose that the component comprises one of a block, a signal, a subsystem and a custom storage class.

Miller discloses that the component comprises one of a block, a signal, a subsystem and a custom storage class.(Col 5:58-65, "...from building blocks...", Col 7:35-42, "...in the signal processing domain...", Col 10:15-18, "...There are several classes...") in an analogous system for the purpose of providing a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way of generating and optimizing code and ancillary target software for use in communication systems.(Miller:Col 2:10-16)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include a block, a signal, a subsystem and a custom storage class to Daly's invention using the teachings of Miller.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide a method and apparatus for a waveform compiler that provides waveform application development, allows partitioning of that application functionality to a target architecture, and further provides a way of generating and optimizing code and ancillary target software for use in communication systems.(Miller:Col 2:10-16)

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortal in view of Manu. (U.S. PG PUB 2005/0114832)

With respect to claim 9, the rejection of claim 1 is incorporated and further,

Ortal does not disclose that the generated code comprises pseudo-code.

Manu discloses that the generated code comprises pseudo-code.(Col 4:0039, "...a block of pseudo code...") in an analogous system for the purpose of making the testing

of API's easier by functionally modeling test software and automatically generating test code from the model in one or more target languages. (Manu:Col 1:0004)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to include pseudo code to Ortal's invention.

The modification would have been obvious because one of ordinary skill in the art would have been motivated to make the testing of API's easier by functionally modeling test software and automatically generating test code from the model in one or more target languages. (Manu:Col 1:0004)

Response to Arguments

9. Applicant's arguments filed on January 07, 2008 have been fully considered with respect to claims 1-30 but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK P. FRANCIS whose telephone number is (571)272-7956. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571)272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2193

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark P. Francis

Patent Examiner

Art Unit 2193

/Lewis A. Bullock, Jr./

Supervisory Patent Examiner, Art Unit 2193